Intro to Programming Learning Objectives

At the end of each week, students should be able to meet the following objectives. If they are not able to meet these objectives, they should schedule a 1:1 appointment with a mentor.

Week #	Lesson Name	Topics Covered	Students will be able to…
1	Lesson 1: JavaScript Basics	Problem-solving, coding fundamentals (variables, operators, etc.), variable types, methods that can be called on certain variable types	fork a Replit file; declare string, numerical, and boolean variables; practice with concatenating strings; and complete basic math problems.
2	Lesson 2: JavaScript Functions	Function basics including arrow functions, use of objects such as Date	encapsulate code with functions, pass information into functions, and practice with arrow functions.
3	Lesson 3: JavaScript Loops and Arrays	Arrays, Loops, Test Driven Development overview	use loops to repeat tasks and iterate in JavaScript; work with arrays in JavaScript – create, access elements, modify arrays; and write reusable functions that use parameters, loops, arrays and return values.
4	Lesson 4: JavaScript Objects	Objects (syntax, how to access, etc.)	create, access, destructure, and manipulate JavaScript objects.

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5	Lesson 5: JavaScript Array Methods	Array methods, particularly map, filter, reduce	employ array methods including map(), filter(), and reduce() to transform array data; employ callbacks and higher order functions with existing arrays.
6	Lesson 6: Intro to Algorithms	Algorithms and methods of solving	define an algorithm, identify properties of a good algorithm, and understand methods of solving algorithms.
7	Lesson 7: git Basics	git version control, GitHub, using command line	explain what a repository is and how commits record the change history of document(s); create a new GitHub repository, clone it locally, and push to it to create a pull request successfully.
8	Lesson 8: How the Web Works	URLs, domain names, IP addresses, HTTP vs HTTPS	explain what a browser, URL, domain, and IP address are; describe the difference between HTTP and HTTPS.
9	Lesson 9: HTML and Accessibility	Semantic markup, file structuring and referencing paths, inline vs block elements, displaying images, considering accessibility	write basic HTML in order to format content into headers, sections, images, forms, etc.; understand file structure for the purpose of referencing other files within the same repository; explain the importance of using accessibility features when building a site.
10	Lesson 10: CSS Basics	CSS concepts, selectors, values, units	link a css file to an html file correctly, create several basic selectors with appropriate values defined.
11	Lesson 11: CSS Layout	CSS box model, display property, positioning, flexbox	create a flexbox layout on one or more sections of their portfolio project by using correct syntax and proper class/id assignment in their css and html files.
12	Lesson 12: Responsive Design	Media queries and grid	explain what a media query does and build two media queries in their portfolio project to account for two of the three

			device types (mobile/tablet/desktop); experiment with grid to understand how it is similar/different to flexbox for formatting.
13	Lesson 13: The DOM API	DOM elements, traversal, and manipulation; event handling	define the DOM and implement changes to parts of their portfolio project using DOM manipulation; use the DOM to handle form submission event on their portfolio project.
14	Lesson 14: Asynchronous Programming and Promises	Promises, concept of asynchronous programming	identify the characteristics of asynchronous programming and define promises and how to work with them.
15	Lesson 15: Fetch API	Fetch API, fetch requests, reusable fetch functions, error handling, post data with fetch, async/await	explain the fetch API structure including get and post aspects; implement a fetch request by handling the data returned via async/await while accounting for any errors that may happen during the request. Complete the portfolio part and begin their Open API part of their final project.
16	Lesson 16: Node, NPM, and Packages	Overview of Node and NPM, package installation, use of package.json	provide an explanation of how Node and NPM work, how to install packages, and what the package.json file is and does.
17	Lesson 17: A Deeper Look at git	git and command line	develop a better understanding of git version control and command usage in the command line
18	Lesson 18: Final Project	Final Project Rubric	